ISSUE DOCUMENTATION – RTCA SC-186

ASA / ASAS

Tracking Information (committee secretary only)	
Change Issue Number	4
Submission Date	10/23/02
Status (open/closed/deferred)	OPEN
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Short Title for Change Issue:	Unknown SIL in legacy ADS-B systems

Topic:		ASA		High-level		ASAS		STP		ASSAP		CDTI

Document Reference:		Originator Information:	
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Table/Figure number(s)		Other	

Proposed Rationale for Consideration (originator should check all that apply):	
	Item needed to coordinate with other documents
	ASA MASPS
	1090 MHz Link MOPS
	UAT Link MOPS
	TIS-B MASPS
	Previously written CDTI MOPS
	Other (include document title):
	Item needed for harmonization with international requirements
	Item identified during recent ADS-B development activities and operational evaluations
	MOPS clarifications and correction item
	Validation/modification of questioned MOPS requirement item
	Military use provision item
X	New requirement item

Nature of Issue:		Editorial		Clarity		Performance		Functional

Issue Description (attach additional sheets if necessary):

The MIT LL analysis of the Enhanced Visual Acquisition application indicates SIL = 0.01 as an integrity requirement. Many existing navigation systems currently fielded do not provide outputs that allow determination of the SIL (including TSC C-129 GPS receivers). This is a particular problem since many GA aircraft fall into this category of equipage, and represent a primary end user of the EVAcquisition application. As these systems will not meet the requirements of this basic application, they must be shown as degraded targets. Due to the number of these systems in operation, this may result in most traffic being displayed with a "degraded" symbol.

Originator's proposed resolution if any (attach additional sheets if necessary):

Several action items pertaining to this were developed:

1) Joel Wichgers action - to address the possibility of using NAC as a surrogate for NIC. Specifically, to see if there is a way to achieve an indication of 99% containment bound / integrity from the 95% NAC accuracy bound.

2) MIT LL action - to determine the impact / effect of reducing the SIL requirement from 0.01 to 0.05.

3) Tom Foster action – to address how to resolve the mismatch between our current definitions of NIC and

SIL as it relates to the extraction / interpretation of this type of data from current equipment.

4) WG1 action – determine the implication(s) of operational considerations of displaying traffic as degraded; particularly for the case discussed where SIL does not meet the 0.01 requirement and numerous traffic targets would fall into that category (when ownship SIL fails the SIL=0.01 requirement, all displayed traffic would be shown as degraded).

WG4 Deliberations on 19 November 2002:
Joel Wichgers presented a paper (see 11/19-21/2002 meeting notes) that suggests a methodology for using NAC as a surrogate for NIC.

WG4 Deliberations on 22 April 2003:
This Issue Paper was reviewed and discussed at the WG4 meetings held April 22 & 23, 2003 at RTCA, Inc. Jonathan to complete summary of WG4 discussions.